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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
LEE, CHRISTOPHER E	

ART UNIT	PAPER NUMBER
2112	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/636,171	WHITEMAN ET AL.	
	Examiner	Art Unit	
	Christopher E. Lee	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-15 and 17-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-15 and 17-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Receipt Acknowledgement

1. Receipt is acknowledged of the Amendment filed on 27th of July 2005. Claims 1, 7, 12-15, and 17-22 have been amended; claims 6 and 16 have been canceled; and no claim has been newly added since the Non-Final Office Action was mailed on 25th of May 2005. Currently, claims 1-5, 7-15, and 17-22 are pending in this Application.

Claim Objections

2. Claims 8, 9, and 20 are objected to because of the following informalities:

In the claim 20, substitute "fewer lines **that** the primary bus" in line 2 by --fewer lines **than** the primary bus--.

In fact, the Applicants canceled the claim 6. However, the dependent claims 8 and 9 of the canceled claim 6 have not been amended for correcting to their appropriate dependencies, respectively. Therefore, the claims 8 and 9 are objected to under 37 CFR 1.75(c), and the Examiner presumes their dependencies, such that the claims 8 and 9 are dependent claims of the claim 3, for the purpose of the claim rejection. The Applicants are required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1-5 and 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim 1 recites the limitation "the status of the storage device" in line 7. There is insufficient antecedent basis for this limitation in the claim. Therefore, the term "the status of the storage device" could be considered as --a status of the storage device-- since it is not clearly defined in the claims. The claims 2-5 and 7-11 are dependent claims of the claim 1.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Corrington et al. [US 6,076,142 A; hereinafter Corrington].

Referring to claim 20, Corrington discloses a computer system (i.e., RAID system 10 in Fig. 1), comprising:

- a storing means for storing information (i.e., hot swappable drive module 14 in Fig. 2);
- a first controlling means for controlling said storing means (i.e., RAID controller 24 of Fig. 2), wherein
    - said storing means and said first controlling means are coupled via a primary bus (i.e., SCSI bus 13 of Fig. 2; See col. 13, lines 8-17);
- a secondary controlling means (i.e., ICU 22 of Fig. 2) coupled via a secondary bus (i.e., connections of ML6692 266 for RAID controller interface, and of ML2258 282 for Backplane interface in Fig. 26) to said first controlling means (i.e., said RAID controller; See col. 5, lines 37-39);
- a status indicating means (i.e., LEDs 41-46, 50, 54 in Fig. 5) that receives status information (e.g., module powered up and ready for use, or drive module failure) from said secondary controlling means (i.e., said ICU), wherein

- said received information indicates the status of storage means (See col. 8, line 43 through col. 10, line 26); and
  - wherein said information (i.e., drive module failure and temperature of RAID system) conveyed to said status indicating means (i.e., to said Drive LED and TEMP alarm LED) is conveyed via said secondary bus (i.e., via A/D ML2258 286 of Fig. 26; See col. 9, lines 49-67, and col. 12, lines 10-11)
  - wherein said secondary bus (i.e., said connections of ML6692[cf ML6692] 266 for RAID controller interface, and of ML2258 282 for Backplane interface in Fig. 26, in fact, RxD/TxD 14 lines for ML6692 and Analog/Digital 16 lines for ML2258[cf. ML2258]) comprises fewer lines than said primary bus (i.e., 50 or 68 lines of said SCSI bus[cf. SCSI] 13 of Fig. 2).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-5, 7, 8, 10, 12-15, 17-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corrington [US 6,076,142 A] in view of Berglund et al. [US 6,199,130 B1; hereinafter Berglund].

Referring to claim 1, Corrington discloses a computer system (i.e., RAID system 10 in Fig. 1), comprising:

- a storage controller (i.e., RAID controller 24 of Fig. 2);

[cf ML6692] Refer to specification "100BASE-TX Physical Layer with MII", published by Micro Linear, April 1999
[cf. ML2258] Refer to specification "Micro Linear µP Compatible 8-Bit A/D Converter with 8-Channel Multiplexer", published by Micro Linear, May 1997
[cf. SCSI] SCSI standard A-type cable has 50 lines, and SCSI standard B-type cable has 68 lines. See "Information technology - Small Computer System Interface -2" Working Draft, on page 9, 5.2.1 Single-ended cable.

- a storage device (i.e., hot swappable drive module 14 in Fig. 2) coupled via a primary bus (i.e., SCSI bus 13 of Fig. 2) to said storage controller (See col. 13, lines 8-17);
- a backplane controller (i.e., ICU 22 of Fig. 2) coupled via a secondary bus (i.e., connections of ML6692 266 for RAID controller interface, and of ML2258 282 for Backplane interface in Fig. 26) to said storage controller (i.e., connection line for RAID controller interface VT100/RTS; See col. 11, line 61 through col. 12, line 13);
- a status indicator (i.e., LEDs 41-46, 54 and audio alarm in Fig. 5; See col. 9, lines 23-29), responsive to information (e.g., drive module failure and temperature of RAID system) received from said backplane controller to indicate a status of said storage device (See col. 8, line 43 through col. 10, line 26); and wherein
    - said information (i.e., drive module failure and temperature of RAID system) conveyed to said status indicator (i.e., to said Drive LED and TEMP alarm LED) is conveyed via said secondary bus (i.e., via A/D ML2258 286 of Fig. 26; See col. 9, lines 49-67, and col. 12, lines 10-11).

Corrington does not teach said secondary bus is an I^2C bus.

Berglund discloses a system power control network connection (See Fig. 1 and col. 4, lines 63-67), wherein

- a storage device (i.e., DASD in Fig. 4) coupled via a primary bus (i.e., SCSI bus 408 of Fig. 4) to a storage controller (i.e., IOP 402P and IOA 402A in Fig. 4); and
- a backplane controller (i.e., SPCN 102 of Fig. 4) coupled via a secondary bus (i.e., IIC 104 of Fig. 4) to said storage controller (i.e., said SPCN being coupled to DASD via interfacing elements including PCIB SPCN RAM 103M, PCIB 103, and PCI bus 401 and its slots in Fig. 4); and wherein
    - said secondary bus (i.e., said IIC) is an I^2C bus (See col. 4, lines 15-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted said system power control network (i.e., SPCN) connection, as disclosed by Berglund, for said secondary bus (i.e., plural interface connections), as disclosed by Corrington, for the advantage of providing a simple and effective way (i.e., a simple two-wire point-to-point IIC interface) of accomplishing the implementation of the concurrent maintenance of said storage devices (i.e., PCI based direct access storage devices; See Berglund, col. 5, lines 27-42).

Referring to claim 2, Corrington teaches

- said information (i.e., drive module failure and temperature of RAID system) conveyed to said status indicator (i.e., to Drive LED 50 and TEMP alarm LED 41 of Fig. 5) is not conveyed via said primary bus (i.e., not conveyed via said SCSI bus 13 of Fig. 2, but via said A/D ML2258 286 of Fig. 26).

Referring to claim 3, Corrington teaches

- said status indicator (i.e., LEDs 41-46, 54 and audio alarm in Fig. 5) including a light indicating device (i.e., Light Emitting Diode[cf. Def.]).

Referring to claim 4, Corrington teaches

- said status indicator (i.e., LEDs 41-46, 54 and audio alarm in Fig. 5) including audible indicator (See col. 2, lines 30-34 and col. 9, lines 61-63).

Referring to claim 5, Corrington teaches

[cf. Def.] "LED" is defined as "a semiconductor diode that emits light when a voltage is applied to it and that is used in an electronic display" by Merriam-Webster's Collegiate® Dictionary (10th ed.)

- said primary bus (i.e., SCSI bus 13 of Fig. 2) is a small computer system interconnect ("SCSI") bus (See col. 2, lines 15-26).

Referring to claim 7, Corrington teaches

- said secondary bus (i.e., said connections of ML6692[cf ML6692] 266 for RAID controller interface, and of ML2258 282 for Backplane interface in Fig. 26, in fact, RxD/TxD 14 lines for ML6692 and Analog/Digital 16 lines for ML2258[cf. ML2258]) having substantially fewer lines than said primary bus (i.e., 50 or 68 lines of said SCSI bus[cf. SCSI] 13 of Fig. 2):

Referring to claim 8, Corrington teaches

- said status indicator (i.e., TEMP alarm LED 41 in Fig. 5) is operable at different frequencies[cf. Def.] (i.e., a number of LED blinking times, and a steady LED illumination meaning 0 number of LED blinking time; See col. 9, lines 61-62, and 66-67) and
- each frequency relates to a different status condition (i.e., the LED blinking when the temperature reaches the first level threshold, and the steady LED on when the temperature reaches the second level threshold) of said storage device; See col. 9, lines 59-67).

Referring to claim 9, Corrington teaches

- said status information (i.e., drive module failure) indicating storage device failure (See col. 9, lines 38-40).

[cf ML6692] Refer to specification "100BASE-TX Physical Layer with MII", published by Micro Linear, April 1999

[cf. ML2258] Refer to specification "Micro Linear µP Compatible 8-Bit A/D Converter with 8-Channel Multiplexer", published by Micro Linear, May 1997

[cf. SCSI] SCSI standard A-type cable has 50 lines, and SCSI standard B-type cable has 68 lines. See "Information technology - Small Computer System Interface -2" Working Draft, on page 9, 5.2.1 Single-ended cable.

[cf. Def.] "frequency" is defined as "the number of times that a periodic function repeats the same sequence of values during a unit of variation of the independent variable" by Merriam-Webster's Collegiate® Dictionary (10th ed.)

Referring to claim 10, Corrington teaches

- said computer system (i.e., RAID system 10 in Fig. 1) is rack mounted (See housing 11 with 7 bays, drive modules 14A-G, channel 30 and guide track 31 in Fig. 1, and col. 6, lines 52-63) and
- said storage device (i.e., hot swappable drive module 14 in Fig. 2) is capable of being hot swapped (See col. 5, lines 11-14).

Referring to claim 12, Corrington discloses a method (i.e., monitoring RAID system by Monitor Utility; See Abstract and col. 5, lines 60-67), comprising:

- detecting a change in a storage device status (i.e., monitoring drive module being powering up or down, and drive module failure; See col. 5, lines 37-43) via a primary bus (i.e., said Monitor Utility being run in said RAID system clearly anticipates said detecting a change in a storage device status via SCSI bus 13 in Fig. 2), wherein
    - the storage device (i.e., hot swappable drive module 14 in Fig. 2, which is showing said storage device status and monitored by said Monitor Utility) communicates with a storage controller (i.e., RAID controller 24 of Fig. 2);
- indicating storage device status (i.e., module powered up and ready for use, or drive module failure) via a secondary bus (i.e., connections of ML6692 266 for RAID controller interface, and of ML2258 282 for Backplane interface in Fig. 26), wherein
    - said storage controller (i.e., said RAID controller) communicates with a backplane controller (i.e., ICU 22 of Fig. 2; See col. 5, lines 37-39); and
    - enabling status indicators (i.e., LEDs 41-46, 50, 54 in Fig. 5) to reflect the status of said storage device (See col. 8, line 43 through col. 10, line 26), wherein
        - said backplane controller (i.e., said ICU) communicates with said status indicators (i.e., with said Drive LED and TEMP alarm LED) via said secondary

bus (i.e., via A/D ML2258 286 of Fig. 26; See col. 9, lines 49-67, and col. 12, lines 10-11).

Corrington does not teach said secondary bus is an I^2C bus.

Berglund discloses a system power control network connection (See Fig. 1 and col. 4, lines 63-67), wherein

- a storage device (i.e., DASD in Fig. 4) coupled via a primary bus (i.e., SCSI bus 408 of Fig. 4) to a storage controller (i.e., IOP 402P and IOA 402A in Fig. 4); and
- a backplane controller (i.e., SPCN 102 of Fig. 4) coupled via a secondary bus (i.e., IIC 104 of Fig. 4) to said storage controller (i.e., said SPCN being coupled to DASD via interfacing elements including PCIB SPCN RAM 103M, PCIB 103, and PCI bus 401 and its slots in Fig. 4); and wherein
    - o said secondary bus (i.e., said IIC) is an I^2C bus (See col. 4, lines 15-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted said system power control network (i.e., SPCN) connection, as disclosed by Berglund, for said secondary bus (i.e., plural interface connections), as disclosed by Corrington, for the advantage of providing a simple and effective way (i.e., a simple two-wire point-to-point IIC interface) of accomplishing the implementation of the concurrent maintenance of said storage devices (i.e., PCI based direct access storage devices; See Berglund, col. 5, lines 27-42).

Referring to claim 13, Corrington teaches

- said change in status is an insertion of a new storage device (i.e., hot swappable drive module 14 having been inserted into said RAID system in Fig. 2; See col. 7, lines 17-20, and col. 9, lines 1-4).

Referring to claim 14, Corrington teaches

- said change in status is the failure of a storage device (i.e., drive module failure; See col. 9, lines 38-40).

Referring to claim 15, Corrington teaches

- said primary bus (i.e., SCSI bus 13 of Fig. 2) is a small computer system interconnect ("SCSI") bus (See col. 2, lines 15-26).

Referring to claim 17, Corrington teaches

- said secondary bus (i.e., said connections of ML6692[cf ML6692] 266 for RAID controller interface, and of ML2258 282 for Backplane interface in Fig. 26, in fact, RxD/TxD 14 lines for ML6692 and Analog/Digital 16 lines for ML2258[cf. ML2258]) comprising substantially fewer lines than said primary bus (i.e., 50 or 68 lines of said SCSI bus[cf. SCSI] 13 of Fig. 2).

Referring to claim 18, Corrington teaches

- said status indicator (i.e., LEDs 41-46, 54 and audio alarm in Fig. 5) is a light indicating device (i.e., Light Emitting Diode[cf. Def.]).

Referring to claim 19, Corrington discloses a computer system (i.e., RAID system 10 in Fig. 1), comprising:

[cf ML6692] Refer to specification "100BASE-TX Physical Layer with MII", published by Micro Linear, April 1999

[cf. ML2258] Refer to specification "Micro Linear μP Compatible 8-Bit A/D Converter with 8-Channel Multiplexer", published by Micro Linear, May 1997

[cf. SCSI] SCSI standard A-type cable has 50 lines, and SCSI standard B-type cable has 68 lines. See "Information technology - Small Computer System Interface -2" Working Draft, on page 9, 5.2.1 Single-ended cable.

[cf. Def.] "LED" is defined as "a semiconductor diode that emits light when a voltage is applied to it and that is used in an electronic display" by Merriam-Webster's Collegiate® Dictionary (10th ed.)

- a storing means for storing information (i.e., hot swappable drive module 14 in Fig. 2);
- a first controlling means for controlling said storing means (i.e., RAID controller 24 of Fig. 2), wherein
    - said storing means and said first controlling means are coupled via a primary bus (i.e., SCSI bus 13 of Fig. 2; See col. 13, lines 8-17);
- a secondary controlling means (i.e., ICU 22 of Fig. 2) coupled via a secondary bus (i.e., connections of ML6692 266 for RAID controller interface, and of ML2258 282 for Backplane interface in Fig. 26) to said first controlling means (i.e., said RAID controller; See col. 5, lines 37-39);
- a status indicating means (i.e., LEDs 41-46, 50, 54 in Fig. 5) that receives status information (e.g., module powered up and ready for use, or drive module failure) from said secondary controlling means (i.e., said ICU), wherein
    - said received information indicates the status of storage means (See col. 8, line 43 through col. 10, line 26); and wherein
        - said information (i.e., drive module failure and temperature of RAID system) conveyed to said status indicating means (i.e., to said Drive LED and TEMP alarm LED) is conveyed via said secondary bus (i.e., via A/D ML2258 286 of Fig. 26; See col. 9, lines 49-67, and col. 12, lines 10-11).

Corrington does not teach said secondary bus is an I^2C bus.

Berglund discloses a system power control network connection (See Fig. 1 and col. 4, lines 63-67), wherein

- a storing means (i.e., DASD in Fig. 4) coupled via a primary bus (i.e., SCSI bus 408 of Fig. 4) to a first controlling means (i.e., IOP 402P and IOA 402A in Fig. 4); and

- a secondary controlling means (i.e., SPCN 102 of Fig. 4) coupled via a secondary bus (i.e., IIC 104 of Fig. 4) to said storing means (i.e., said SPCN being coupled to DASD via interfacing elements including PCIB SPCN RAM 103M, PCIB 103, and PCI bus 401 and its slots in Fig. 4); and wherein
    - said secondary bus (i.e., said IIC) is an I^2C bus (See col. 4, lines 15-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted said system power control network (i.e., SPCN) connection, as disclosed by Berglund, for said secondary bus (i.e., plural interface connections), as disclosed by Corrington, for the advantage of providing a simple and effective way (i.e., a simple two-wire point-to-point IIC interface) of accomplishing the implementation of the concurrent maintenance of said storage devices (i.e., PCI based direct access storage devices; See Berglund, col. 5, lines 27-42).

Referring to claim 21, Corrington teaches

- said status indication means (i.e., DRIVE LED 50 of Fig. 5) indicates that said storing means (i.e., hot swappable drive module 14 in Fig. 2) has been inserted into said system (See col. 7, lines 17-20, and col. 9, lines 1-4).

Referring to claim 22, Corrington teaches

- said status information (i.e., drive module failure) indicating failure of said storing means (See col. 9, lines 38-40).

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corrington [US 6,076,142 A] in view of Berglund [US 6,199,130 B1] as applied to claims 1-5, 7, 8, 10, 12-15, 17-19 and 22 above, and further in view of Garnett et al. [US 6,869,314 B2; hereinafter Garnett].

Referring to claim 11, Corrington, as modified by Berglund, discloses all the limitations of the claim 11, except that does not teach that said storage device comprising a blade server.

Garnett discloses a rack system (See Fig. 2, and col. 4, lines 28-31), wherein

- a storage device (i.e., information processing cartridge 43, in fact, said cartridge having a hard disk 205 in Fig. 11) comprising a blade server (See col. 4, lines 53-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented said storage device (i.e., hot swappable drive module), as disclosed by Corrington, as modified by Berglund, in the type of said blade server, as disclosed by Garnett, so as to receive server blades of a high density computer system (i.e., server), and thus this is of particular in increasing reliability, ease of manufacture, ease of maintenance, and reducing costs (See Garnett, col. 32, lines 35-39).

Response to Arguments

10. Applicants' arguments filed on 27th of July 2005 have been fully considered but they are not persuasive.

In response to the Applicants' argument with respect to "As best as Applicants can tell, the status of claim 21 is indeterminate. Although the Office Action Summary notes that claim 21 is rejected, there does not appear to be any mention of claim 21 in the Detailed Action portion of the Office Action. ..." in the Response page 6, lines 15-23, the Examiner respectfully disagrees.

Actually, the claim 21 was dependent claim of the claim 16, which is currently canceled. However, the previous claim 16 is not related with the subject matter "the computer system" of the claim 21, but related with the subject matter "the method." Thus, the claim 21 fails to further limit the subject matter of a previous claim 16, and the Examiner presumed the claim 21 is a dependent claim of the claim 19 in light of the specification for the purpose of the claim rejection based on a prior art.

Furthermore, in contrary to the Applicants' statement, the Detailed Action portion of the Non-Final Office Action mailed on 25th of May 2005, on page 9, lines 14-17, mentioned such that the claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Corrington.

Thus, the Applicants' argument on this point is not persuasive.

In response to the Applicants' argument with respect to "Claims 1-11 stand rejected under 35 U.S.C. 5 112 2nd paragraph because the phrase "the status of the storage device" allegedly lacks antecedent basis. Applicants respectfully traverse because inherent components of recited claim elements have antecedent basis in the recitation of the elements themselves. MPEP 2173.05(e); ... Likewise, since "status" is an innate characteristic of storage devices, recitation of a storage device itself provides sufficient antecedent basis for the phrase "the status of the storage device". ..." in the Response page 7, lines 1-13, the Examiner respectfully disagrees.

In contrary to the Applicants' allegation, the phrase "the status of the storage device" does not have antecedent basis in the recitation of the elements themselves according to MPEP 2173.05(e) because the scope of the claim would not be reasonably ascertainable by one of the ordinary skill in the art, which is clearly different case from the exemplified case of the term "the ellipse" in MPEP 2173.05(e). For example, the term "the status of the storage device" has much dispute such as what kind of status **of** what kind of storage device, which is not similar to the exemplified case of the term "the ellipse" in MPEP 2173.05(e).

Furthermore, in contrary to the Applicants' statement, i.e., "status" is an innate characteristic of storage device, the Applicants fail to show what kind of status is the innate characteristic of the claimed subject matter "storage device" in light of the ordinary skill in the art. In other words, there may be indefinite number of status possible for the storage device, which is not defined as any specific kind of storage device.

Thus, the Applicants' argument on this point is not persuasive.

In response to the Applicants' argument with respect to "...The Examiner rejected the pending claims as allegedly obvious under §103 over Corrington in view of Berglund. ... Applicant respectfully traverse. Ethernet connection 266 and analog-to-digital converter 286 are electrical components not busses. ... Since an I^2C bus performs none of these functions, one of ordinary skill in the art would not be motivated to replace the Ethernet connection 266 with an I^2C bus because to do so would severely limit communication abilities between the ICU 260 and the RAID controller. Additionally, even in "fast mode," an I^2C bus operates at a maximum of 3.4 Mbps, not the 100 Mbps recited in the ML6692 Specification, and therefore one of ordinary skill in the art would not have been motivated to replace the ML6692 with an I^2C bus for at least this additional reason. Furthermore, ... An I^2C bus is not capable of converting analog measurements into digital values or capable of performing any of the other functions performed by the ML2258. Thus, one of ordinary skill in the art would not be motivated to replace analog-to-digital conversion that is required of block 286. ..." in the Response page 7, line 14 through page 9, line 3, the Examiner respectfully disagrees.

First of all, the Examiner believes that the Applicants misinterpret the claim rejection. Actually, the claimed subject matter "a secondary bus" is suggested by "connections of ML6692 266 for RAID controller interface, of A/D ML2258 286, and Interface Logic 282 for Backplane interface in Fig. 26" of Corrington. Therefore, the Examiner mentions "connections" which is clearly anticipating the claimed subject matter "the secondary bus." See paragraph 6 of the instant Office Action, Claim 20 rejection under 35 U.S.C. 102(b) as being anticipated by Corrington, as an exemplary claim rejection.

Secondly, even though the Applicants argue that an I^2C bus operates at a maximum of 3.4 Mbps, not the 100 Mbps recited in the ML6692 Specification, and therefore one of ordinary skill in the art would not have been motivated to replace the ML6692 with the I^2C bus, the Examiner provides a different point of rationale for the proper combination, i.e., for the advantage of providing a simple and effective way (i.e., a simple two-wire point-to-point IIC interface) of accomplishing the implementation of the concurrent

maintenance of said storage devices (i.e., PCI based direct access storage devices), which is supported by Berglund at col. 5, lines 27-42. See paragraph 8 of the instant Office Action, Claim 1 rejection under 35 U.S.C. 103(a) as being unpatentable over Corrington in view of Berglund as an exemplary claim rejection.

At last, the Applicants argue that the I^2C bus is not capable of performing any functions of ML2258, and thus one of ordinary skill in the art would not be motivated to replace the ML2258 with an I^2C bus. However, in contrary to the Applicants' argument, the combination does not substitute the I^2C bus of Berglund for the component ML2258 of Corrington, but the I^2C bus of Berglund for the connection of components in ICU in Fig. 26 of Corrington. Therefore, the function of ML2258 is properly sustained and performed in the combined apparatus.

Furthermore, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Thus, the Applicants' argument on this point is not persuasive.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 571-272-3637. The examiner can normally be reached on 9:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher E. Lee
Examiner
Art Unit 2112

CEL/ CEL

REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
10/11/05